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ABSTRACT

In general, the invention is directed to techniques for delivering macromolecules to a tissue site via electroporation. Particularly, a catheter detects contact between a distal end of the catheter and a target tissue site via a sensing electrode at the distal end of the catheter. The catheter delivers a fluid containing macromolecules to the tissue site upon detecting contact between the tissue site and the catheter. Concurrently or soon after delivery of the fluid, an electrical stimulus is applied to the tissue site. The electrical stimulus can be applied by the catheter or directly from a power supply, such as an implanted pulse generator. The electrical stimulus causes membranes of cells within the tissue site to destabilize, in turn, forming pores through which the macromolecules migrate into the cells of the tissue site.